

U.S. Serial No. 10/086,775
Reply to Office Action of:
Family Number: P2002J025

Page 4

AMENDMENTS TO THE CLAIMS

Claim 1. (Currently amended) A method for reducing particulate emissions during combustion of a hydrocarbon fuel which comprises combusting an emulsion of a hydrocarbon fuel and water containing a non-ionic surfactant or mixtures thereof wherein the fuel is a Fischer-Tropsch (FT) derived hydrocarbon as or a mixture of a FT fuel and a conventional fuel and in which emulsion the hydrocarbon particles are substantially uniform in size and in the range of about 0.1 to about 1.0 microns greater than 50% of the hydrocarbon has particles about 0.1 microns in size, and wherein said emulsion is a hydrocarbon-in-water emulsion.

Claims 2-4. (Cancelled)

Claim 5. (Original) The method of claim 4 wherein the volume ratio of hydrocarbon to water is in the range of 95:5 to 60:40.

Claim 6. (Currently amended) The method of claim 5 wherein greater than 80% of the hydrocarbon particles are in the range of about 0.1 to about 1.0 microns in size.

Claim 7. (Original) The method of claim 6 wherein the Fischer-Tropsch derived hydrocarbon boils in the diesel fuel range.

Claim 8. (Original) The method of claim 7 wherein the emulsion has a viscosity in the range of about 50 to 200 mm²/sec.

Claim 9. (Currently amended) A method for forming a fuel in water emulsion which when combusted has reduced particulate matter emissions compared with Swedish Class I Diesel Fuel comprising shearing a Fischer-Tropsch (FT) derived hydrocarbon boiling in the diesel fuel range or a mixture of the FT fuel and a conventional hydrocarbon fuel with water in the volume ratio of hydrocarbon to water

U.S. Serial No. 10/086,775
Reply to Office Action of:
Family Number: P2002J025

Page 5

of 95:8 to 40:60 and about 0.05 to about 5.0 wt % based on the weight of hydrocarbon and water with a non-ionic surfactant or mixtures thereof having an HLB of about 5 to about 30 under shearing conditions sufficient to produce a liquid emulsion in which the hydrocarbon has ~~particle sizes of~~ particles substantially uniform in size and in the range of about 0.1 microns to about 1.0 micron.

Claim 10. (Currently amended) A liquid fuel composition comprising an emulsion of FT derived fuel in water and containing a non-ionic surfactant or mixtures thereof wherein the fuel in the emulsion has substantially uniform fuel particle sizes predominately of 1 micron or less and the emulsion has a viscosity of above about 50 mm²/sec at 20°C.

Claim 11. (Cancelled)

Claim 12. (Original) The composition of claim ~~11~~10 wherein the Fischer-Tropsch derived fuel boils in the diesel fuel range.